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Art Unit: 3724

The Applicant argues that Michler does not teach controlling the torque. This argument is not persuasive. The controller in Figs. 10-11 is used for accelerating or decelerating the rotation of the upper knife and the lower knife so that their speeds are matched during a cutting process (see background of the invention in cols. 1-2). When the speed of the upper and lower knives are forced to accelerate or decelerate, torque occurs. Therefore, Michler teaches controlling the torque.

Regarding claims 29, 30 and 42, the Applicant argues that it is not obvious to do repeated experiments to achieve the claimed torque pattern. This argument is not persuasive. The act of varying torque to achieve a smooth cut is analogous to using a pair of scissors to cut paper sheets of different thickness and hardness. For example, one applies a small amount of force on the pair of scissors to cut a thin sheet of writing paper. However, when one cuts a thick hard cover of a folder, he applies a greater amount of force on the pair of scissors to make a cut.

Regarding claim 35, col. 1, lines 30-40 implies different speeds between the upper roller and the lower roller.

Regarding claim 37, torque has the same magnitude but different signs along the circumference of the roller due to the sign of the velocity of the roller. Therefore, there is no contradictory between claims 28 and 37.

Regarding claim 41, each roller has its torque pattern due to different speeds. When the speed of the lower roller, for example, tries to match the speed of the upper roller, the torque pattern of the lower roller changes from its own pattern to the torque pattern of the upper roller. Therefore, the combination of Hideo and Michler reads on claim 41.